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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Seiji Sato

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EXAMINER

MOMPER, ANNA M

ART UNIT

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3657

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/582,087	Applicant(s) SATO ET AL.	
	Examiner ANNA MOMPER	Art Unit 3657	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 December 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Amendment to the abstract and specification received 12/24/2008 has been entered.
2. Amendment to the claims received 12/24/2008 has been entered. Claims 1-12 have been amended. Previously made rejections of claims 2, 4, 6, and 10-11 under 35 U.S.C. 112 dated 10/03/2008 have been withdrawn in view of the amendment to the claims.

Response to Arguments

3. Applicant's arguments with respect to claims 1 and 3 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamamoto et al. (WO 03/050436 A1, see US 7,189,174 B2 for English equivalent cited for this rejection).

As per claim 1, Yamamoto et al. discloses a chain tensioner (Fig. 2) comprising:
a housing (1) formed with a cylinder chamber (11), a plunger (3) slidably mounted in said cylinder chamber, said cylinder chamber defining a pressure chamber

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behind said plunger (Fig. 2, the cylinder chamber defines a pressure chamber 9 which is within the inside of the hollow plunger and in the space behind the plunger);

a spring (5) mounted in said cylinder chamber and biasing said plunger outwardly of said chamber (Col. 7, Ln. 30-38);

a retraction restrictor (7) provided between said housing and said plunger (Fig. 2) for preventing said plunger from retracting toward a closed end of said cylinder chamber beyond a predetermined distance (Col. 10, Ln. 6-26);

an oil supply passage (15) formed in said housing and communicating with said pressure chamber (Col. 7, Ln. 8-10), said oil supply passage being configured to supply a hydraulic oil such that a pushing force applied to said plunger is dampened by the hydraulic oil (Col. 7, Ln. 38-45);

a ring fitting groove (35) formed in an outer periphery of said plunger near a rear end of said plunger located inside said cylinder chamber (Fig. 2),

a radially elastically deformable elastic ring (7, note: applicant argued with regards to the previous office action dated 10/03/2008 that anticipation of Poiret et al. was improper due to lack of teaching a distinct “retraction restrictor” and “radially elastically deformable elastic ring”, it is pointed out that there is no claim language requiring the retraction restrictor to be of a separate and distinct structure from that of the radially elastically deformable elastic ring; also, the upper portion of 7 could be considered the restrictor and the lower ring the recited elastic ring) received in said ring fitting groove in a radially compressed state (Col. 9, Ln. 36-45, Ln. 52-55, ring 7

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compresses in groove 35 after being inserted into guide groove 18, when the wall 36 of groove 35 is behind the ring portion 71 of the ring 7); and

an engaging groove (18) formed in an inner periphery of said cylinder chamber near an open end of said cylinder chamber (Fig. 2), said elastic ring being engagable in said engaging groove and being configured to radially expand in said engaging groove such that an inner diameter of said elastic ring is smaller than an outer diameter of said plunger (Col. 9, Ln. 16-22, Fig. 2, the inner diameter of the ring is smaller than the inner diameter of the cylinder as well as smaller than the outer diameter of the plunger so as to engage the grooves on the outer periphery of the plunger)

and said elastic ring is disposed in both said engaging groove and said ring fitting groove to prevent axial movement of said plunger in a direction away from said closed end of said cylinder chamber (Col. 8, Ln. 23-30).

As per claim 2, Yamamoto et al. further discloses the engaging groove (18) has a first axial end surface (22) and a tapered second axial end surface (21), said tapered second axial end surface being axially opposed to said first axial end surface and being disposed closer to said closed end of said cylinder chamber than said first axial end surface (Fig. 2).

As per claim 3, Yamamoto et al. discloses a chain tensioner comprising:

a housing (1) formed with a cylinder chamber (11), a plunger (3) slidably mounted in said cylinder chamber, said cylinder chamber defining a pressure chamber behind said plunger (Fig. 2, the cylinder chamber defines a pressure chamber 9 which is within the inside of the hollow plunger and in the space behind the plunger);

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a spring (5) mounted in said cylinder chamber and biasing said plunger outwardly away from said chamber (Col. 7, Ln. 30-38);

a retraction restrictor (7) provided between said housing and said plunger (Fig. 2) for preventing said plunger from retracting toward a closed end of said cylinder chamber beyond a predetermined distance (Col. 10, Ln. 6-26);

an oil supply passage (15) formed in said housing and communicating with said pressure chamber (Col. 7, Ln. 8-10), said oil supply passage being configured to supply a hydraulic oil such that a pushing force applied to said plunger is dampened by the hydraulic oil (Col. 7, Ln. 38-45);

a ring fitting groove (18) formed in an inner periphery of said cylinder near an open end of said cylinder chamber (Fig. 2),

a radially elastically deformable elastic ring (7) received in said ring fitting groove in a radially compressed state (Col. 9, Ln. 16-22); and

an engaging groove (35) formed in an outer periphery of said plunger near a rear end of said plunger (Fig. 2),

said elastic ring being engagable in said engaging groove and being configured to radially compressed in said engaging groove such that an outer diameter of said elastic ring is larger than an inner diameter of said cylinder chamber (Col. 9, Ln. 16-22, Fig. 2)

and said elastic ring is disposed in both said engaging groove and said ring fitting groove to prevent axial movement of said plunger in a direction away from said closed end of said cylinder chamber (Col. 8, Ln. 23-30).

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As per claim 4, Yamamoto et al. discloses said engaging groove (35) has a first axial end surface (Fig. 2, first axial end surface is the left most end surface of engaging groove 35 as viewed in Fig. 2) and a tapered second axial end surface (34, Fig. 3), said tapered second axial end surface being axially opposed to said first axial end surface and being disposed closer to a front end of said plunger than said first axial end surface (Fig. 2, Fig. 3).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 5-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto et al. (WO 03/050436 A1) in view of Kuznets et al. (US 5,700,214).

As per claim 5, 7, 8 and 9, Yamamoto discloses the elastic ring (7) having two separate ends (Fig. 4B) made of steel wire having a circular cross-section (Fig 4B, Col. 14, Ln. 15-17). Yamamoto does not explicitly disclose the elastic ring being a c-shaped member.

Kuznets et al. discloses a hydraulic tensioner (10) in which a retainer ring (86) has a circular cross section (Fig. 3, Fig. 3B) and is a C-shaped member with two separate ends (Fig. 3A).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the chain tensioner of Yamamoto et al. to include the retainer ring

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being a C-shaped member, as taught by Kuznets et al., for the purpose of allowing for thermal expansion. Further, it would have been obvious to one of ordinary skill in the art at the time of the invention to include the elastic ring being a c-shaped member, since it has been held that it is a matter of choice which a person of ordinary skill in the art would have found obvious absent persuasive evidence that a particular configuration was significant. In re Dailey, 357 F.2d 669, 149 USPQ 47 (CCPA 1966).

As per claims 6, 10, 11 and 12, Yamamoto discloses all elements of the claimed invention as described above, but fails to explicitly disclose, the elastic ring being made of resin to facilitate sliding between the plunger and the cylinder chamber.

It would have been obvious to one of ordinary skill in the art at the time the invention to modify the chain tensioner of Yamamoto to include the elastic ring being made of resin for the purpose of reducing friction and wear, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416. Further, it is well known in the art of chain tensioners to use resin on parts, such as blade shoes, where low levels of friction are desired.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

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§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANNA MOMPER whose telephone number is (571)270-5788. The examiner can normally be reached on M-F 6:00-3:30 (First Friday Off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Siconolfi can be reached on (571) 272-7124. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Bradley T King/
Primary Examiner, Art Unit 3657

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